Patent Application No. 09/965,057
Reply and Amendment dated September 12, 2005
Reply to Office Action of July 12, 2005

REMARKS

Claims 1-24 are currently pending in the application. Claims 1, 8, 9, 16, and 23 have been amended herein. No claims have been added or canceled. Accordingly, following the entry of the present amendment, claims 1-24 will be pending in the application.

Claims 1-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,763,520 to Seeds (hereinafter referred to as "Seeds") apparently in view of U.S. Published Patent Appl. No. 2001/0030970 to Wiryaman et al. (hereinafter referred to as "Wiryaman"). Applicants respectfully traverse the rejection. Independent claims 1, 8, 9, 16, and 23 have been amended to more explicitly claim features that were previously inherent in the claims.

Independent claim 1, as amended, is directed to a method performed on at least one processor for multiplexing applications, the method comprising the steps of: (a) providing at least one access server that has access to at least one application, the at least one application capable of having a plurality of running instances, each of the instances capable of receiving and processing requests for a first service provided by the application during a session with a client; (b) receiving a request from at least one client at the access server to access the first service provided by the at least one application; (c) based on the received request, establishing a communication link between the at least one access server and the at least one client; (d) storing the received request in an input request queue with other received requests, wherein the number of received requests may be greater than the number of running instances; (e) checking for an available communication path to the requested application, an available communication path being present when an instance of the requested application is available and ready to accept a new request; (f) when an available communication path is available, establishing the communication path between the input request queue and the at least one application; (g) removing the stored request; (h) sending the stored request to the requested application; and (i) establishing a communication path between the client and the requested application, thereby establishing a session with the client and the requested application and providing the first service to the client.

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Seeds is directed to the allocation and prioritization of various queues between server instances. Particularly, Seeds is directed to a scheduling algorithm for processes running on a computer, and describes a method of sorting the incoming jobs into queues of differing priority and allocating database threads among the queues in a way that ensures that the all queues are worked and none are starved of CPU, so that the available CPU is used both fairly and efficiently. As discussed in Seeds at col. 3, lines 45-55, the system of Seeds assigns processing resources to achieve such fair and efficient CPU usage and "controls the starting and stopping of server instances, the service type of server instances, and the association of server instances with requests." Seeds specifically describes "server instances" as being a thread of either a single-threaded or multi-threaded program, as noted at col. 1, lines 59-61. Furthermore, Seeds describes in col. 4 lines 7-11 that "[t]he dispatching controller 24 controls the dispatch of requests from the queues 22 to server instances 30. The dispatching controller also controls the creation, allocation or preparation of the server instances 30." In such a manner, the system of Seeds controls the associated thread(s) (referred to as server instances by Seeds) to provide for the various requests that are received. Such a system may be used in, for example, a database application.

To the contrary, the present invention, as claimed in claim 1, is directed to multiplexing an application in which a client establishes a session with an application in order to receive a first service provided by the application. In such a manner, the first service is available for use by the requesting client through the access server. The access server, as required by the claim, stores received requests in an input request queue, checks for an available communication path to the application, establishes a communication link between the application and the requesting client when a communication path is available, thereby establishing a session with the first application and the client. In such a manner, multiple clients may access the first service that is provided by a particular application. Importantly, the access server queues the requests for the first service and establishes a communication link to the application when a communication path is available to the application. Seeds does not contemplate such an access server that checks for communication paths to particular application and establishing a session between a client and application because Seeds is directed to controlling queues and threads to allocate processing

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resources based on the various requests. Thus, Seeds contains no teaching, suggestion, or motivation of a method for multiplexing applications as claimed.

Wiryaman is directed to a network access device. The access device optimizes network traffic, or bandwidth, by examining the routing information (e.g. network addresses) on packets sent over the network and seeks to improve network performance by a combination of prioritization and proxying. As described at page 2, paragraph 49, "[a]ccess device 220 is a device that monitors traffic flowing through it, implements a user interface for setting configurable policies based on the characteristics of the monitored traffic, and enforces the configured policies." Further, paragraph 50 on page 3 explains "the policies that are enforced by access device 220 relate to allocation and use of communication resources related to communication passing between LAN 130 and WAN 110." The policies described include prioritization, where some packets are allowed to proceed over the network (WAN 110) while others are held back to reduce congestion, as described at page 4, paragraphs 63-64. Wiryaman discloses that a policy table may be used that specifies how different classes of inbound or outbound data flows are to be processed. The policies may also include proxying, where packets of data are re-routed to less busy/congested destinations that are deemed to be equivalent to the original destination recorded in the incoming data packet, as described at paragraph 65 on page 5. Importantly, Wiryaman is directed to data packets transmitted over a data network, in which traffic over one or more network devices is sought to be optimized.

To the contrary, the present invention, as claimed, is directed to multiplexing applications, and running instances of applications that process requests from one or more clients. In this manner, the present invention helps deploy applications efficiently and cost effectively by queuing requests to applications and forwarding the application request when a communication path to the application is available, such an available communication path being present when an instance of the requested application is available and ready to accept a new request.

Taken together, Seeds and Wiryaman would provide enhanced network traffic and controlling of threads to enhance allocation of system resources. Accordingly, none of the cited references, taken alone or in combination, contain any teaching, suggestion, or motivation for the method as claimed in claim 1. Accordingly, it is submitted that claim 1 is patentable over the

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cited references. Furthermore, claims 2-8, which depend (directly or indirectly) from independent claim 1, are also patentable for at least the same reasons as described with respect to claim 1.
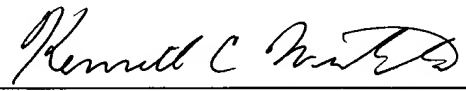
Independent claims 8, 9, 16, and 23 contain similar limitations as described with respect to claim 1, and it is submitted that such claims are allowable for at least the same reasons as claim 1. Furthermore, claims 10-15, which depend (directly or indirectly) from claim 9, are also patentable over the cited references for at least the same reasons as claim 9; claims 17-22, which depend (directly or indirectly) from claim 16, are also patentable over the cited references for at least the same reasons as claim 16; and claim 24, which depends from claim 23, is also patentable over the cited references for at least the same reasons as claim 23.

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No fees are believed to be due with this response. In the event any additional fees are due, please debit Deposit Account 08-2623.

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The application now appearing to be in form for allowance, reconsideration and allowance thereof is respectfully requested.

Respectfully submitted,

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